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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,944	10/04/2004	Martin Konemann	259560US0PCT	4976
22850 7590 06/04/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER ANTHONY, JOSEPH DAVID				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
06/04/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/509,944

Applicant(s)

KONEMANN ET AL.

Examiner

Joseph D. Anthony

Art Unit

1796

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/8/10 as an amendment.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-21 is/are pending in the application.
- 4a) Of the above claim(s) 6-8 and 14-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,9-13,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

FINAL REJECTION AFTER FILING RCE

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is deemed to be indefinite because it is broader in scope in regards to the definition of the R¹, R² and R³ groups, than independent claim 1, from which it directly depends. In dependent claim 2, as presently written, the R¹, R² and R³ groups can be selected in part from: halogen, sulfonic acid, a derivative of said sulfonic acid, a carboxylic acid, and a derivative of said carboxylic acid. All of said Markush members are outside the scope of independent claim 1 as amended with the amendment filed 3/8/10.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4-5, 9-13 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traylor et al. U.S. Patent Number 5,286,887.

Taylor et al. teach polymers and copolymers are derived from substituted macrocyclic metal chelators. These polymers may be cross-linked, and are typically insoluble in most solvents. The metal complexes of these polymers exhibit the useful catalytic activity of the monomers. The polymers are advantageously prepared by reacting a polybasic nucleophile with the substituted macrocyclic metal chelator. Copolymers of the macrocyclic metal chelators with other polyfunctional monomers are also formed by reaction with suitable polybasic nucleophiles. Suitable macrocyclic metal chelators for use as monomers in accordance with the present invention have at least one leaving group substituent which is labile for aromatic nucleophilic substitution and at least one electronegative (or electron-withdrawing) substituent, see abstract and column 13, lines 10-43. **Applicant's attention is specifically drawn to the substituted tetrabenzimidazole macrocyclic metal chelators of Formula VI as set forth in Taylor et al's claim 9.**

Applicant's claims are deemed to be clearly obvious over said substituted tetrabenzimidazole macrocyclic metal chelators of Formula VI, as set forth in Taylor et al's claim 9. This rejection is being made by way of obviousness because there does not seem to be a direct teaching (i.e. by way of a specific exemplified species of a substituted tetrabenzimidazole macrocyclic metal chelators of Formula VI) that reads on applicant's claimed cyclic compounds of formula (I) as set forth in applicant's independent claim 1. It would have been very obvious to one having ordinary skill in the

art to use Taylor et al's disclosure of substituted tetrabenzimidazole macrocyclic metal chelators of Formula VI as overwhelming motivation to actually make/use a substituted tetrabenzimidazole that falls within Taylor et al's macrocyclic metal chelators of Formula VI since there is massive overlap between applicant's claimed cyclic compounds represented by applicant's formula (I) and Taylor et al's substituted tetrabenzimidazole macrocyclic metal chelators of Formula VI.

In regards to applicant's claims 11-13, although Taylor et al. may not have a direct disclosure that their substituted tetrabenzimidazole macrocyclic metal chelators of Formula VI can function as light absorbers, light-emitting compounds in OLED, synergistic agent for dispersing pigments etc., applicant's claims are nevertheless deemed to be obvious over Taylor et al's substituted tetrabenzimidazole macrocyclic metal chelators of Formula VI, because Taylor et al's said compounds of Formula VI would inherently have such properties since a compound and/or a composition containing the compound, are inseparable from its/their properties.

Claims 1-2, 4-5, 9-13 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nichols et al. U.S. Patent Number 3,481,945.

Nichols et al. tetrabenzimidazole, tetrabenzothiazole, and tetrabenzoxazole compounds and their chelates useful as chelating agents, dyes, fluorescent pigments and semi-conductors, see abstracts, column 2, lines 1-26, Figs. 1-2 and claims 1-2.

Applicant's claims are deemed to be clearly obvious over the substituted tetrabenzimidazole compounds represented by the general formula of Fig. 1 and claim

1. This rejection is being made by way of obviousness because there does not seem to be a direct teaching (i.e. by way of a specific exemplified species of a substituted tetrabenzimidazole compound represented by the general formula of Fig. 1 and claim 1) that reads on applicant's claimed cyclic compounds of formula (I) as set forth in applicant's independent claim 1. It would have been very obvious to one having ordinary skill in the art to use Nichols et al's disclosure of substituted tetrabenzimidazole compounds as represented by the general formula of Fig. 1 and claim 1, as overwhelming motivation to actually make/use a substituted tetrabenzimidazole that falls within Nichols et al's substituted tetrabenzimidazole compound represented by the general formula of Fig. 1 and claim 1, since there is massive overlap between applicant's claimed cyclic compounds represented by applicant's formula (I) and Nichols et al's substituted tetrabenzimidazole compounds represented by the general formula of Fig. 1 and claim 1.

Response to Arguments

Applicant's arguments filed 3/8/10 with the amendment have been fully considered but are not persuasive to put the application in condition for allowance for the reasons set forth above. Additional Examiner comments are set forth next.

On Page 13, lines 4-10, of applicant's REMARKS filed with the amendment, applicant argues: *"An exemplary aspect of the present application is to provide monomeric cyclic compounds of formula (I) which may be used as photoactive performance chemicals (e.g., light absorbers, light- emitters), as dispersants or as*

complex ligands (See e.g., page 1, lines 12-14). Therefore, the compounds of formula (I) according to claim 1 comprise substituents R^1 , R^2 and R^3 independently selected from the groups recited in claim 1. The R^1 , R^2 and R^3 substituents are not able to be aromatically substituted. Therefore, the compounds of formula (I) can not be polymerized in the manner taught by Traylor.”. The Examiner disagrees with applicant's assertion that “*The R^1 , R^2 and R^3 substituents are not able to be aromatically substituted.*” A look at applicant's actually Markush group for R^1 , R^2 and R^3 as set forth in independent claim 1, clearly shows that substituted C_{6-12} aryl, substituted C_{7-13} arakyl, substituted C_{7-13} alkaryl groups and substituted C_{6-12} aryloxy groups are in fact all specifically claimed. Furthermore, in applicant's independent claim 1, the Markush group for R^1 , R^2 and R^3 includes Markush members: “cyano, isocyano, nitro” which are well known electronegative groups that are directly disclosed as suitable electronegative groups by Traylor et al., see column 5, lines 13-50 of the Traylor et al. patent.

In regards to the applied Nichols et al. patent applicant argues: “*Applicants submit that Nichols fails to disclose or suggest which substituents shall be present on the phenyl rings of a compound according to the claimed cyclic compound of formula (I). Therefore, a skilled artisan would not have arrived at the composition of the present invention comprising the cyclic compounds of formula (I) having the specific substituents of R^1 , R^2 and R^3 as presently claimed, based on the disclosure of Nichols, absent hindsight reconstruction. As a result, Nichols fails to render obvious to a skilled artisan the composition of the present invention comprising the claimed cyclic compounds of formula (I).*” The Examiner disagrees with applicant's conclusion since

Nichols et al.'s claim 1 and Fig. 1, provide ample direction to one having ordinary skill in the art to make and use cyclic compounds according to applicant's formula (I) since all one would have to do is to select wherein at least one of the carbon atoms labeled 1 through 12 is substituted with a lower alkyl group or a lower ether group from Nichols et al.'s very small Markush group of claim 1!

Please note that the Examiner is well aware of Obermayer et al.'s U.S. Patent Number 5,180,821 assertion in column 1, lines 15-40, that the copper tetrabenzimidazoles taught by Nichols et al. U.S. Patent Number 3,481,945, are not in fact copper tetrabenzimidazoles, but are rather fluorindines. Since it is standard practice to presume that all U.S. Patents are enabled for their claimed subject matter, the claimed subject matter of Nichols et al. is deemed to be enabled. If applicant want's to challenge Nichols et al.'s enablement of tetrabenzimidazoles, applicant will need to set forth concrete evidence, such as experimental evidence that tetrabenzimidazoles were not being made by Nichol et al's synthesis process but rather fluorindines were being made. Also note that Obermayer et al. U.S. Patent Number 5,180,821 itself had previously been applied over applicant's claims by the Examiner but was dropped after applicant's previously filed amendment of 09/17/08.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571) 272-1498. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.

**/Joseph D. Anthony/
Primary Patent Examiner
Art Unit 1796
6/1/10**

